

## PATENT ABSTRACTS OF JAPAN

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(54) PACK COSMETIC

(57)Abstract:

PURPOSE: To provide an easily miscible reaction-type pack cosmetic stable to aging.

CONSTITUTION: The pack cosmetic is composed of a gel part containing a water-soluble alginic acid salt and a powdery part containing a bivalent or polyvalent metal salt and a retarding agent (retarding the reaction of the water-soluble alginic acid salt with the bivalent or polyvalent metal salt). Both parts are mixed with each other immediately before use.

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**CLAIMS**

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[Claim(s)]

[Claim 1]Pack cosmetics consisting of 2 agents with the second agent that consists of a powder part containing a first agent which consists of a gel part containing alginic acid water soluble salts, and the metal salt more than bivalence which can react to said alginic acid water soluble salts and a retardant of said reaction.

[Claim 2]The pack cosmetics according to claim 1 which contain a moisturizer to a gel part.

[Claim 3]The pack cosmetics containing water and an exothermic agent which generates heat in response to a powder part according to claim 1 or 2.

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[Translation done.]

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## DETAILED DESCRIPTION

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### [Detailed Description of the Invention]

[0001]

[Industrial Application]This invention relates to the pack cosmetics of the usability which blended the metal salt more than the bivalence which can react to alginic acid water soluble salts and this good reaction type.

[0002]

[Description of the Prior Art]There are two, the type which it fails to wash after use, and the type to remove, in pack cosmetics from the former. Usually, the base of the type which it fails to wash is creamy, is applied to the skin, and is washed out with water or lukewarm water after neglect. The base of the type to remove is jelly state or paste state, apply to the skin, dry it, and it makes a coat form, and is removed by a hand after that. By the way, the powder which blended the metal salt more than the bivalence reacted to alginate and these salts with one of the things belonging to the type to remove is mixed with water at the time of use, it is considered as paste state, and what was made into pack cosmetics is known (JP,52-10426,A, JP,58-39608,A). Since coat formation on the skin is performed unlike what is depended on evaporation and desiccation of moisture like before while moisture had been included by the reaction of compounds, these pack cosmetics have a good using feeling to skin, and there is the feature that drying time is early, from the conventional thing.

[0003]

[Problem(s) to be Solved by the Invention]However, the powdered pack cosmetics containing the above-mentioned alginate had the following problems.

- (1) When it is easy to form lumps when adding water and stirring, and applying to a face, it is hard to become a uniform film. This is for alginic acid water soluble salts not to melt into water easily generally.
- (2) When sticking on a face and removing after that, it does not peel finely but skin has much

pack remainder.

(3) Since it is too cold, it is hard to respond to year-round.

(4) Since it is powdered, combination of a moisturizer is difficult, therefore admiration is hard to be given to the skin gently.

(5) Need cautions for storage with the passage of time, such as considering it as the exterior with few moisture penetrations at the time of storage, for a reaction type.

This invention solves such a conventional technical problem, and aims to let usability provide pack cosmetics stable reaction type temporally good.

[0004]

[Means for Solving the Problem] So that an invention-in-this-application person may make it dissolve in water beforehand about alginate, and may consider it as gel as a cause by which it is hard to be mixed with water, since the solubility of alginic acid water soluble salts is mentioned, and a reaction may not advance, By dividing into 2 of a gel part and a powder part parts, usability was good, and it found out that stable pack cosmetics were obtained by temporality, and resulted in this invention. Namely, pack cosmetics, wherein this invention consists of 2 agents with the second agent characterized by comprising the following.

A first agent which consists of a gel part containing alginic acid water soluble salts.

A powder part containing the metal salt more than bivalence which can react to said alginic acid water soluble salts, and a retardant of said reaction.

[0005] Though it is a thing troublesome type [ to wash out / which is not ] to remove, pack cosmetics of this invention have short drying time, and moreover the skin has a moderate feeling of tension, when removing, it is hard to remain in skin, it has the special feature which is easy to take, and also usability is good and there is the feature also temporally of being stable. If it is in pack cosmetics of this invention, a gel part and a powder part are mixed just before use. Under the present circumstances, alginic acid water soluble salts (for example, sodium alginate) contained in a gel part, A solidified body which serves as alginic acid metal salt (for example, calcium alginate) which causes a hardening reaction as metal salt (for example, calcium sulfate) more than bivalence contained in a powder part reacts to the chemical formula 1 under existence of water, and has dermatoplasty ability, and is elastic as a result is given. Then, a delayed response as shown in the chemical formula 2 by work of a retardant (for example, trisodium monophosphate) also occurs simultaneously, and a rapid advance of the above-mentioned hardening reaction is prevented.

[0006]

[Formula 1] Hardening reaction:  $\text{Na}-n\text{Alg}+n/2\text{CaSO}_4 \rightarrow n/2\text{Na}_2\text{SO}_4+\text{Ca}-n/2\text{Alg}$  [0007]

[Formula 2]

Delayed response:  $2\text{Na}_3\text{PO}_4+3\text{CaSO}_4 \rightarrow \text{Ca}_3(\text{PO}_4)_2+3\text{Na}_2\text{SO}_4$  [0008] In this invention, as

alginic acid water soluble salts contained in a gel part, the sodium salt of alginic acid, potassium salt, ammonium salt, etc. are mentioned, among these sodium salt is preferred. The desirable loadings of the alginic acid water soluble salts blended into a gel part are 2 to 10 % of the weight to the cosmetics whole quantity. That reason is because there is a moderate film strength in this range and it becomes a good using feeling. Water is blended with a gel part and it is made it with gel so that the concentration of these alginate may be 2 to 15%.

[0009]A moisturizer besides alginic acid water soluble salts can be blended with a gel part. As a moisturizer, dynamite glycerol, a 1,3-butylene glycol, dipropylene glycol, propylene glycol, MABITTO, sorbitol, a polyethylene glycol, a polypropylene glycol, glucose and its derivative, a mucopolysaccharide, etc. are mentioned. The loadings are 5 to 15 % of the weight preferably three to 30% of the weight to the cosmetics whole quantity. If loadings exceed 30 % of the weight, film strength will deteriorate and it will become easy to be torn. By blending a moisturizer, moistness can be given and a thing of the skin after use of pack cosmetics for which admiration is increased gently is possible. When removing after use, the pack remainder is almost lost. Various alcohols can also be blended with a gel part for grant of coolness, or grant of preservation-from-decay fungus resistance.

[0010]The metal salt more than bivalence is mentioned as what is contained in a powder part in this invention. Since the metal salt more than bivalence performs alginic acid water soluble salts and a gelling reaction as mentioned above, it can react to alginic acid water soluble salts. as metal salt more than such bivalence, calcium sulfate, calcium citrate, calcium lactate, a calcium chloride, sulfate of zinc, aluminum sulfate, lactic acid zinc, etc. can be illustrated -- these -- a kind -- or two or more sorts can be blended. Among these, calcium sulfate and calcium citrate are preferred. Since magnesium salt and mercury salt do not cause alginic acid water soluble salt and a gelling reaction, metal salt more than bivalence is also removed from the metal salt in this invention. As for loadings to the cosmetics whole quantity of the metal salt more than bivalence, 5 to 15 % of the weight is preferred. This is because a coat which is moderate film strength can be formed if it is loadings of this range.

[0011]There is a retardant as other ingredients contained in a powder part in this invention. Even if a retardant delays a reaction of said alginate and the metal salt more than bivalence and mixes both substances, it is blended so that it may not solidify promptly, and it has such an operation, and the kind in particular should not just be limited. As a retardant, each sodium salt of alkali metal salt, for example, phosphoric acid, condensed phosphoric acid, carbonic acid, tartaric acid, and citrate is mentioned, and especially trisodium monophosphate and tripotassium phosphate are preferred. Although loadings of a retardant change with particle diameter to be used, adjustment is usually carried out to moderate reaction velocity by blending 0.5 to 5 % of the weight in all the ingredients.

[0012]In this invention, after sticking poultice on skin, in order to take heat from the skin with

the latent heat of vaporization by moisture evaporation, an excessive cool feeling is sensed. Since this is prevented, an excessive cool feeling can be eased by blending with water an exothermic agent which gives [ be / it / under / powder part / reaction ] off heat of hydration. As such an exothermic agent, calcined gypsum and argillite, such as RAPONAITO bentonite magnesium aluminum silicate, are mentioned, for example. When blending an exothermic agent, loadings may be suitably chosen by grade of warming, but it is usually 0.5 to 20 % of the weight to the whole quantity.

[0013]A bulking agent can be further blended with a gel part and a powder part of this invention if needed. As a bulking agent, diatomite, silica, kaolin, magnesium carbonate, talc, a titanium dioxide, a flower of zinc, crystalline cellulose, etc. are mentioned. Even if it blends a bulking agent with any of a gel part and a powder part, it is satisfactory, but it is more desirable to blend with a gel part, since powder quantity increases dramatically when it blends with a powder part. As for the loadings, 5 to 40 % of the weight is preferred.

[0014]When using pack cosmetics of this invention, after mixing a gel part and a powder part well, it applies to the skin promptly. After spreading, since it solidifies in about 5 to 10 minutes, it removes from a portion of a frame to the lower one after that. Other ingredients, for example, perfume, a coloring material, drugs, an antiseptic, etc. can be blended with pack cosmetics of this invention if needed.

[0015]

[Example]Hereafter, an example explains this invention concretely.

The pack cosmetics which consist of the gel part and powdered part of this invention according to a formula Examples 1-9 and given in the comparative example 1 table 1 were manufactured. The pack cosmetics which consist only of the conventional powder part as a comparative example were manufactured. About each obtained pack cosmetics, the temporal stability of the evaluation and the pack by a use test was checked.

[0016]After mixing a <evaluation by use test> gel part, and a powder part, a pack is applied to a face and the pack after 5 to 10-minute maintenance is removed. Evaluation criteria are five items of the ease of mixing, the skin remainder of the pack after removing and removing gently, the cool feeling under application with gauze, and the tunic nature of the removed pack.

[0017](1) It judged from the average value of evaluation of following O by ten valuation method panels, O, \*\*, and x.

[0018](2) Valuation-basis \*\* ease [ of mixing ] O : it is mixed very easily.

O : it is mixed easily.

\*\* : Mixing takes time a little.

x : It is hard to be mixed and form lumps.

[0019]\*\* after removing -- gently -- O: -- carry out very gently.

O : carry out gently.

\*\* : Make it small gently.

x : Do not almost carry out gently.

[0020]\*\* Skin remaining [ of the pack after removing ] O : don't remain at all.

O : hardly remain.

\*\* : Remain slightly.

x : Remain considerably.

[0021]\*\* Cool feeling [ under application with gauze ] O : feel cool moderately.

O : feel cool.

\*\* : Feel cool too much.

x : Feel cool too much dramatically.

[0022]\*\* Tunic nature [ of the removed pack ] O : it is dramatically good.

O : it is good.

\*\* : It is bad a little.

x : It is bad.

[0023]Both were mixed for the gel part and the powder part to <ascertainment of temporal stability> 0 \*\*, RT, 37 \*\*, and 40 \*\*-75% after one-month neglect, coat formation was checked, and it judged from the state.

[0024]

[Table 1]

		実 施 例			比較例
		1	2	3	1
ゲル状パウダー	イオン交換水	58.0%	58.0%	58.0%	—
	アルギン酸ナトリウム	5.0	5.0	5.0	—
	結晶セルロース	20.0	20.0	20.0	—
	タルク	5.0	5.0	5.0	—
粉末末パウダー	アルギン酸ナトリウム	—	—	—	10.0%
	硫酸カルシウム	10.0	—	10.0	30.0
	リン酸三ナトリウム	2.0	2.0	—	5.0
	クエン酸カルシウム	—	10.0	—	—
	リン酸三カリウム	—	—	2.0	—
	結晶セルロース	—	—	—	50.0
	タルク	—	—	—	5.0
混ぜやすさ		◎	◎	◎	×
剥がした後のしっとりさ		△	△	△	△
剥がした後のバックの肌残り		△	△	△	×
貼布中のクール感		△	△	△	△
剥がしたバックの被膜性		◎	○	○	○
経時安定性		◎	◎	◎	×

[0025]

[Table 2]



		実 施 例		
		4	5	6
ゲル状 パウダー	イオン交換水	48.0%	48.0%	48.0%
	アルギン酸ナトリウム	5.0	5.0	5.0
	結晶セルロース	20.0	20.0	20.0
	タルク	5.0	5.0	5.0
	ダイナマイトグリセリン	10.0	—	—
	1, 3-ブチレン グリコール ソルビット	— —	10.0 —	— 10.0
粉末 ペースト	硫酸カルシウム	10.0	10.0	10.0
	リン酸三ナトリウム	2.0	2.0	2.0
混ぜやすさ		◎	◎	◎
剥がした後のしっとりさ		◎	○	○
剥がした後のバックの肌残り		◎	○	◎
貼布中のクール感		△	△	△
剥がしたバックの被膜性		◎	○	◎
経時安定性		◎	◎	◎

[0026]

[Table 3]

		実 施 例			
		7	8	9	10
ゲル状パ ー ツ	イオン交換水	43.0%	46.0%	43.0%	38.0%
	アルギン酸ナトリウム	5.0	5.0	5.0	5.0
	結晶セルロース	20.0	20.0	20.0	20.0
	タルク	5.0	5.0	5.0	5.0
	ダイナマイトグリセリン	10.0	10.0	10.0	10.0
	ブルシン変性アルコール	—	—	—	5.0
粉 末 パ ー ツ	硫酸カルシウム	10.0	10.0	10.0	10.0
	リン酸三ナトリウム	2.0	2.0	2.0	2.0
	ケイ酸アルミニウム				
	マグネシウム	—	—	5.0	5.0
	焼セッコウ	5.0	2.0	—	—
混ぜやすさ		○	◎	◎	◎
剥がした後のしっとりさ		◎	◎	◎	◎
剥がした後のバックの肌残り		◎	◎	◎	◎
貼布中のクール感		◎	○	◎	○
剥がしたバックの被膜性		◎	◎	◎	◎
経時安定性		◎	◎	◎	◎

[0027]

[Effect of the Invention]As explained above, when the pack cosmetics of this invention have a good using feeling when film formation applies to skin early for a reaction type and moreover divide into a gel part and a powder part, mixing is easy and stability with the passage of time is also improved. Since combination of a moisturizer is still more possible, moistness can be given and it has an advantage with a controllable cool feeling at the time of application with

gauze.

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[Translation done.]